

readily be judged only by observing the surface of the roller and also from the feel of the load of the roller during use thereof by hand, whereby the time for rinsing can be greatly reduced and workability can be enhanced. This may also make it feasible to foresee the clogging before the condition is heavily deteriorated. The liquid used for rinsing can be continuously used unless it is heavily contaminated. When a rubber or Teflon or aluminium roller is used in a conventional manner, the rinsing treatment cannot be effected so simply, requiring for example a rinsing brush, as compared with the case where the roller of the present invention is employed.

The method of this invention can avoid the disadvantages of conventional methods, as described hereinabove. For example, the employment of the pressing roller according to the present invention can make it easy and feasible to handle the roller without the roller adhering to the surface of a substrate or without removing a large amount of the surface material from the coated surface. This can avoid the formation of fluffy projections on the surface and also prevent a coated material from being carried over to another place and being caused to adhere thereto to form an undesirable pattern on the surface. Since the method of the present invention allows the treatment of the roughened surface at an optional time before hardening, it can also be advantageously applied to an unevenly coated surface prepared from a two-pack hardenable epoxy resin system, of the type including two separately packaged materials which are mixed together on use, which has a high curing rate. Furthermore, since the work can be performed merely by rolling the pressing roller, the present invention can save a great amount of manual labor. Moreover, the use of the roller of the present invention, as compared with the method where conventional rollers are employed, has the advantage of being entirely free from dust or the like which is produced in the conventional sanding operation with a sanding device, so that the method of the invention is sanitary.

The decorative finish relief on the surface of undercoat obtained according to the present invention is then coated with a topcoating in a conventional manner to bring out better decorative appearance. The topcoating may be applied over the surface with a conventional coating device such as a spray gun. The topcoating to be used for this purpose may be any paint of the type which can generally be employed as a topcoating in this art and which can be dried at ambient or elevated temperatures, such as organic paints, inorganic paints, multi-color paints (suspension paints) or flame-retardant paints. Examples of these paints are alkyd resinous paints, nitrocellulose lacquer, acrylic lacquer, polyurethane resinous paints, epoxy resinous paints, polyester resinous paints, water-soluble resinous paints, water-base emulsion paints, lysinic paints, melamine resinous paints, acrylic resinous paints, phenolic resinous paints, polyvinyl chloride resinous paints, two-pack hardenable acrylic polyurethane resinous paints of the type including two separately packaged materials which are mixed together on use, polyurethane liquid containing compositions as described in U.S. Pat. No. 3,549,583, fluoroplastic paints or silicone paints. These paints may also be comprised of vehicles without any pigment or contain powders of metals which are conventionally employed in this art. It may also be advantageous to tone the relief with a different color, for example to apply a darker tone to the deeper areas to bring out the

relief structure in a more decorative manner. For this purpose, a paint to be employed is such that its vehicle is different from that of the topcoating which is used to give a different tone to the deeper areas or its hue, brightness or shade is different from that of said other topcoat and it may be selected among those illustrated hereinabove as topcoatings, depending upon what effects are to be achieved.

The examples which follow serve to illustrate more fully the process described above, but they should not be construed as limiting the present invention thereto.

EXAMPLE 1

A 220 poise filler-containing vinyl acetate acrylic resin emulsion type coating composition was applied to the surface of a substrate with a roller having an ordinary patterned matrix to form the uneven pattern. With an air-permeable, porous, paper-molded pressing roll prepared by immersing it in a phenolic resin, an acrylonitrile-styrene copolymerized resin spheric-shaped roller, and a polyethylene powder sintered roller separately used at 23° C. 1.5 hours and 2 hours after the formation of the pattern, the surface was press-lev-
eled by rolling thereon the roller which had previously been dipped in water and lightly drained of the water.

What is claimed is:

1. A process of making a decorative relief finish, said process comprising:

forming on the surface of an object on which a decorative relief finish is to be formed a partially hardened layer of coating material having an uneven surface with a plurality of projections of different heights;

providing a pressing roll having a surface which is made of a material which is resinous, has a continuous pore structure, is at least semi-hard, and has the properties of water absorption and water retention; impregnating said pressing roll with a liquid which is capable of being evenly distributed through the pores of said roller material, which will not damage said roller material, and which has an affinity to said coating material; and

pressing and rolling said pressing roll, while impregnated with said liquid, against the top portions of those of said projections above a predetermined height, thereby flattening said projections to said height, the remainder of said projections below said given height being left unflattened, thus forming a decorative relief finish having both flattened and roughened areas.

2. The process of claim 1 wherein the step of forming the coating layer comprises forming a layer of the coating material to a predetermined thickness and applying to said layer a plurality of times a pattern-forming roller, said pattern-forming roller having thereon convex bodies of curved continued, disconnected or perforated line shape which are positioned in a random manner and with the intervals between said convex bodies being substantially equal to one another when viewed in a developed plane view of the surface of the pattern forming roller.

3. The process of claim 2, wherein the pattern-forming roller is manually operated.

4. The process of claim 2, wherein the pattern-forming roller is electrically operated.

5. The process of claim 2, wherein the pattern-forming roller is an elastic material.